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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,490	02/05/2002	Ning Lei	D5253	1192

30409 7590 07/01/2004

INTERNATIONAL ENGINE INTELLECTUAL PROPERTY COMPANY
4201 WINFIELD ROAD
P.O. BOX 1488
WARRENVILLE, IL 60555

EXAMINER

HWU, DAVIS D

ART UNIT PAPER NUMBER

3752

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,490

Applicant(s)

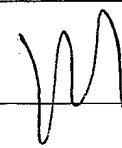
LEI, NING

Examiner

Davis Hwu

Art Unit

3752



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10-14, 18, 21-25, 30-34, 36, 40-47, 50, 52-54, 58 and 59 is/are rejected.
- 7) ☒ Claim(s) 6-9, 15-17, 19, 20, 26-29, 35, 37-39, 48, 49, 51, 55-57 and 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

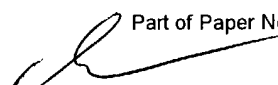
Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____



Art Unit: 3752

Response to Amendment

1. Applicant's amendment of May 26, 2004 is acknowledged and entered.
2. Applicant's remarks have been considered but are moot in view of the new ground(s) of rejection.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

4. Claims 1-5, 10-14, 18, 41-47, 50, 52-54, 58, and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Gibson et al.

Gibson et al. show a unit fuel injector, the injector internally preparing fuel during an injection event at a pressure sufficient for injection into an internal combustion engine by means of an intensifier piston 50, comprising:

- a single needle valve for injecting a single fuel into the internal combustion engine;
- selectively actuatable controller being in fluid communication with a source of pressurized actuating fluid and being in fluid communication with a substantially ambient actuating fluid reservoir, the controller having a first valve 135 for selectively independently porting actuating fluid to and venting actuating fluid from the intensifier piston 150 and a second valve 132 for selectively independently porting actuating fluid to and venting actuating fluid from a needle valve 16 (Column 7, lines 40-67) during the injection event for

controlling opening and closing of the needle valve, wherein the two valves are disposed in a coaxial arrangement;

- a needle back piston being operably coupled to the needle valve and a variable displacement chamber 62 as recited in claims 12-14.

Claim Rejections - 35 USC § 103

5. Claims 21-25, 30-34, 36, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson et al.

The device of Gibson et al. is capable of carrying out the method since the device of Gibson et al. comprises all of the structural limitations as recited.

Allowable Subject Matter

6. Claims 6-9, 15, 16, 17, 19, 20, 26-29, 35, 37-39, 48, 49, 51, 55-57, and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis Hwu whose telephone number is 703-305-1663. The examiner can normally be reached on M-F 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Y. Mar can be reached on (703)308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Davis Hwu